

ISSUED BY
RPP-WTP-PDC**MECHANICAL DATA SHEET: VESSEL**PLANT ITEM No.
24590-PTF-MV-RLD-VSL-000017A

Project:	RPP-WTP	P&ID:	24590-PTF-M6-RLD-P0003
Project No:	24590	Process Calculation:	24590-PTF-MVC-RLD-00004
Project Site:	Hanford	Vessel Drawing	24590-PTF-MV-RLD-P0001
Description:	Alkaline Effluent Vessel		

Reference Data

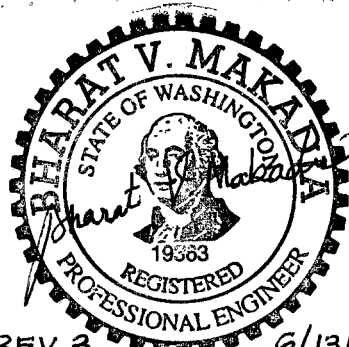
Charge Vessels Tag Numbers	N/A
Pulsejet Mixers / Agitators Tag Numbers	RLD-MXR-00001
RFDs/Pumps Tag Numbers	N/A

Design Data

Quality Level	CM	Fabrication Specs	24590-WTP-3PS-MV00-TP001		
Seismic Category	SC-III	Design Code	ASME Sec. VIII Div 1		
Service/Contents	Alkaline Effluent	Code Stamp	Yes		
Design Specific Gravity	1.10	NB Registration	Yes		
Maximum Operating Volume	gal	Weights (lbs)	Empty	Operating	Test
Total Volume	gal	Estimated	87,300	354,500	373,900
		Actual *	93,580	380,180	355,910

Inside Diameter	inch	192	Wind Design	Not Required	
Length/Height (TL-TL)	inch	210	Snow Design	Not Required	
		Vessel Operating	Vessel Design	Coil/Jacket Design	Seismic Design
Internal Pressure	psig	0	15	N/A	24590-WTP-3PS-FB01-T0001
External Pressure	psig	0.22	FV	N/A	24590-WTP-3PS-MV00-TP002
Temperature	°F	155	180	N/A	Seismic Base Moment *
Min. Design Metal Temp.	°F	40			ft*lb
					Postweld Heat Treat
					Not Required
					Corrosion Allowance
					inch
					0.08
					Hydrostatic Test Pressure *
					psig

Note: Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at the U.S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts, that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.



REV. 3 6/13/06

EXPIRES: 5/5/08

This Bound Document Contains a total of 3 sheets.

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MECHANICAL DATA SHEET: VESSEL

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Materials of Construction

Component	Material	Minimum Thickness / Size	Containment
Top Head	SA 240 304 with max. Carbon of 0.030 %	See Drawing	Auxiliary
Shell	SA 240 304 with max. Carbon of 0.030 %	See Drawing	Primary
Bottom Head	SA 240 304 with max. Carbon of 0.030 %	See Drawing	Primary
Support (Skirt)	SA 240 304 with max. Carbon of 0.030 %	See Drawing	NIA
Jacket/Coils/Half-Pipe Jacket	NIA	NIA	NIA
Internals	SA 240 304 with max. Carbon of 0.030 %	See Drawing	Thermowell Primary
Pipe	SA312 TP304 Seamless with max. Carbon of 0.030%	See Drawing	See Note-1
Forgings/ Bar stock	SA182 F304 with max. Carbon of 0.030 %	See Drawing	As Note-1 for Nozzle Necks
Gaskets	Spiral Wound, 304L Winding with Flexible Graphite Filler	See Drawing	As Note-1 for Nozzle Necks
Bolting	Austenitic SS type 304L	See Drawing	NIA

Miscellaneous Data

Orientation	Vertical	Support Type	Skirt
Insulation Function	Not Applicable	Insulation Material	Not Applicable
Insulation Thickness (inch)	Not Applicable	Welds Surface Finish	De-scaled as laid

Remarks

* To be determined by the vendor.

Note 1: Nozzle necks below the high operating liquid level are Primary, others Auxiliary.

Note 2: NDE for this vessel must meet requirements per para. 6.4.2 of specification no. 24590-WTP-3PS-MV00-TP001.

Note 3: Vessel volumes are approximate and do not account for manufacturing tolerances, nozzles, and displacement of internals.

Note 4: Contents of this document are Dangerous Waste Permit affecting.

Note 5: Datasheet was revised to incorporate process requirements from CCN 068472





MECHANICAL DATA SHEET: VESSEL

PLANT ITEM No.
24590-PTF-MV-RLD-VSL-000017A

Equipment Cyclic Data Sheet

Plant Item Number	24590-PTF-MV-RLD-VSL-00017A
Component Description	<i>Parent Vessel</i>

The information below is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.

Materials of Construction	SA 240 304 with max. Carbon of 0.030 %
Design Life	40 years
Component Function and Life Cycle Description	<i>This is a "batch" vessel and cycles from nearly empty to nearly full. The vessel will be in the fill mode for two days, then in the discharge mode over the next two days.</i>

Load Type		Min	Max	Number of Cycles	Comment
Design Pressure	psig	FV	15	10	<i>Nominal assumption</i>
Operating Pressure	psig	-0.22	0	3500	
Operating Temperature	°F	59	155	3500	<i>Uniform material temperature range, not between two points</i>
Contents Specific Gravity		1.1	1.1	NIA	
Contents Level	inch	Empty	Flooded	3500	<i>Coincident with pressure cycles</i>
Localized Features					
Nozzles		<i>Within 50°F of vessel operating range</i>		As above	

Notes

Cycle increase: The Seller must increase the numbers of operational cycles given above by 10% to account for commissioning duty unless otherwise noted.